AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method for use in a radio communications system with a radio base station that includes multiple antennas associated with a cell, comprising:

selecting multiple mobile radios to receive a transmission over a shared radio channel during a predetermined transmission time interval, and

transmitting information over the shared radio channel to the multiple mobile radios in the cell during the predetermined transmission time interval using multiple antenna beams so that interference from the transmission appears as white noise in time and in space.

2. (Original) The method in claim 1, wherein the white noise is white additive Gaussian noise and one mobile radio is selected for one of the antenna beams.

3. (Original) The method in claim 1, wherein the shared radio channel is a high speed-downlink shared channel (HS-DSCH).

4. (Original) The method in claim 3, further comprising:

receiving reports from mobile radios of a detected channel quality of a pilot signal transmitted in the cell, and

scheduling transmissions to multiple mobile radios over the HS-DSCH for each transmission time interval based on the received reports.

5. (Original) The method in claim 4, further comprising:

selecting one of the mobile radios to receive a transmission from one of the antenna beams based on the received reports, and

transmitting the information over the HS-DSCH using each antenna beam to each selected mobile radio during the predetermined share time interval.

6. (Original) The method in claim 4, further comprising:

selecting an optimal coding and modulation scheme for each scheduled mobile radio to achieve an acceptable error rate.

7. (Original) The method in claim 1, further comprising:

splitting shared radio channel resources among the multiple mobile radios using a resource allocation scheme.

8. (Original) The method in claim 7, wherein the radio communications system is a CDMA-based system where radio channel resources include scrambling codes, each scrambling code having an associated channelization code tree, and wherein the resource allocation scheme allocates a scrambling code to the shared radio channel and allocating one or more different channelization codes associated with the shared radio channel scrambling code to each antenna beam during the predetermined transmission time interval.

9. (Original) The method in claim 7, wherein the radio communications system is a CDMA-based system where radio channel resources include scrambling codes, each scrambling code having an associated channelization code tree, and wherein the resource allocation scheme allocates a different scrambling code for each antenna beam during the predetermined transmission time interval.

10. (Original) The method in claim 7, wherein the resource allocation scheme divides the shared radio channel resources evenly between the multiple mobile radios.

11. (Original) The method in claim 7, wherein the resource allocation scheme divides the shared radio channel resources in proportion to each mobile radio's reported detected channel quality.

12. (Original) The method in claim 7, wherein the resource allocation scheme divides the shared channel resources using a non-linear relationship between two or more of the following: amount of channel resources, throughput, quality of service, and detected channel quality.

13. (Original) The method in claim 12, wherein the non-linear relationship is stored in a look-up table.

14. (Original) The method in claim 13, further comprising:

detecting a change in radio channel conditions, and

updating the look-up table based on changed radio channel conditions.

15. (Original) The method in claim 1, wherein the transmitting to the multiple mobile radios in the cell during the predetermined transmission time interval using multiple antenna beams prevents a flashlight effect from disrupting the channel quality detection performed by the mobile radios.

16. (Original) A radio base station for use in a radio communications system, comprising:

multiple antennas associated with a cell for generating multiple antenna beams, each beam covering only a portion of the cell;

one or more transmit buffers;

a channel scheduler for selecting multiple mobile radios to receive a transmission over a shared radio channel during a predetermined transmission time interval; and

transceiving circuitry for transmitting information stored in the one or more transmission buffers over the shared radio channel via the adaptive antenna array to the multiple mobile radios in the cell during the same predetermined transmission time interval using multiple antenna beams to spread out the interference caused by the transmission.

17. (Original) The radio base station in claim 16, wherein the interference from the transmission appears as white noise in time and in space in the cell and one mobile radio is selected for one of the antenna beams.

18. (Original) The radio base station in claim 17, wherein the white noise is white additive Gaussian noise.

19. (Original) The radio base station in claim 16, wherein the radio channel is a high speed-downlink shared channel (HS-DSCH).

20. (Original) The radio base station in claim 19, further comprising:

a channel quality controller for receiving reports from mobile radios of a detected channel quality of a pilot signal transmitted in the cell,

wherein the scheduler is configured to schedule transmissions to multiple mobile radios over the HS-DSCH for each transmission time interval based on the received reports.

21. (Original) The radio base station in claim 20, wherein the scheduler is configured to select one of the mobile radios to receive a transmission from one of the antenna beams based on the received reports, and

wherein the transceiving circuitry is configured to transmit the information over the HS-DSCH using each antenna beam to each selected mobile radio during the predetermined transmission time interval.

22. (Original) The radio base station in claim 16, wherein the scheduler is configured to select an optimal coding and modulation scheme for each scheduled mobile radio to achieve an acceptable error rate.

23. (Currently Amended) The radio base station in claim 16, wherein the scheduler is configured to split ~~the~~ radio resources of the shared radio channel among the multiple mobile radios using a resource allocation scheme.

24. (Currently Amended) The radio base station in claim ~~22~~23, wherein the radio communications system is a CDMA-based system ~~here~~ where radio channel resources include scrambling codes, each scrambling code having an associated channelization code tree, and wherein the resource allocation scheme includes allocating a scrambling code to the shared radio channel and allocating one or more different channelization codes associated with the shared radio channel scrambling code to each antenna beam during the predetermined transmission time interval.

25. (Original) The radio base station in claim 22, wherein the radio communications system is a CDMA-based system where radio channel resources include scrambling codes, each scrambling code having an associated channelization code tree, and wherein the resource allocation scheme includes transmission allocating a different scrambling code for each antenna beam during the predetermined time interval.

26. (Original) The radio base station in claim 22, wherein the resource allocation scheme includes dividing the shared radio channel resources evenly between the multiple mobile radios.

27. (Original) The radio base station in claim 22, wherein the resource allocation scheme includes dividing the shared radio channel resources in proportion to each mobile radio's reported detected channel quality.

28. (Original) The radio base station in claim 22, wherein the resource allocation scheme includes dividing the shared channel resources using a non-linear relationship between two or more of the following: amount of channel resources, throughput, quality of service, and detected channel quality.

29. (Original) The radio base station in claim 28, wherein the non-linear relationship is stored in a look-up table.

30. (Original) The radio base station in claim 29, wherein the scheduler is configured to: detect a change in radio channel conditions, and

update the look-up table based on changed radio channel conditions.

31. (Original) The radio base station in claim 16, wherein the transmission via the adaptive antenna array to multiple mobile radios in the cell during the same predetermined transmission time interval using multiple antenna beams prevents a flashlight effect from disrupting the channel quality detection performed by the mobile radios.

32. (Original) The radio base station in claim 16, wherein the multiple antennas include an adaptive antenna array.

33. (Original) The radio base station in claim 16, wherein the multiple antennas include transmit diversity antennas.

34. (Original) A method for use in a radio communications system with a radio base station that includes multiple antennas associated with a cell, comprising:

selecting mobile radios to receive a transmission over a shared radio channel

using a beam transmission sequence order;

transmitting information over the shared radio channel using one beam to one or more mobile radios following the beam transmission sequence order for multiple predetermined time intervals; and

performing beam switching in accordance with the beam transmission sequence order after multiple transmission time intervals so that the flashlight effect is avoided.

35. (Previously Presented) The method in claim 34, wherein the interference from the transmission appears as white noise in time and in space.

36. (Original) The method in claim 35, wherein the shared radio channel is a high speed-downlink shared channel (HS-DSCH).

37. (Previously Presented) The method in claim 36, further comprising:

receiving reports from mobile radios of a detected channel quality of a pilot signal transmitted in the cell, and

scheduling transmissions to one of the mobile radios over the HS-DSCH for more than one transmission time interval in accordance with the beam transmission sequence based on the received reports.